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INTEGRATING MICRO AND MACRO POLICY LEVERS IN RESPONSE TO FINANCIAL CRISES

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The 2008–09 Global Financial Crisis originated from a poor incentive structure in the asset market derived from subprime mortgages. The ultimate bursting and unwinding of an asset bubble (here highly overvalued real estate prices woven into a complex multilayer network of securitization, so called collateralized debt obligations or CDOs) put enormous stress on the financial system, spreading through the global network economy and ultimately resulting in the worst economic crisis since the Great Depression.¹ Economists today agree that the severe economic fallout can be largely attributed to the poor systemic performance of international financial markets.² Global macroeconomic imbalances, as well as market failures such as excessive risk taking, misaligned incentives of rating agencies, inefficient liquidity provisions within banks and systemic risk or contagion, i.e., the international and inter-sectoral public goods nature of financial stability, were not sufficiently accounted for by regulation and international macroeconomic policy.

This combined financial and economic crisis environment not only put the intrinsic connection between the financial and the real economy back into the spotlight, but also opened up a policy debate about how to ensure macroeconomic and financial stability without jeopardizing microeconomic foundations of the real economy such as competition. In sum, the resulting policy challenge is twofold: First, a new and sustainable balance between free markets, macro industrial policies, and governmental regulation needs to be found in the financial sector, and second, strategic interactions between macro and microeconomic policy goals need to be identified, understood, and balanced.

This article will focus on the interaction between macroeconomic crisis management and prudential regulatory responses on the one hand, and competition policy and market structure on the other. We provide a simple economic framework for thinking about the relationship between macro

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† The Findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

1. See generally RICHARD A. POSNER, *A FAILURE OF CAPITALISM: THE CRISIS OF '08 AND THE DESCENT INTO DEPRESSION* (2009).

2. See, e.g., Franklin Allen & Douglas Gale, *An Introduction to Financial Crises* (2007), <http://fic.wharton.upenn.edu/fic/papers/07/0720.pdf>.

and micro policies as a function of the immediate policy environment, i.e., “extraordinary” financial instability and imminent economic crisis versus “ordinary,” stable economic circumstances. Specifically, we claim that—during severe financial crises—the overall success of policy responses depends on the coordination of three related decisional vectors. First, policy makers must coordinate the responses of multiple regulatory and political actors. Second, they need to follow a systematic, rather than ad hoc, approach that diminishes moral hazard and leaves open a reasonable exit strategy. Finally, policy makers need to consider time consistency. In other words, they need to avoid the temptation to excessively discount post-crisis effects.

Overall, this work shall add structure to the ongoing policy debate and provide conceptual guidance for lawyers and economists trying to address the challenges of micro and macro policy integration. In Part I, we provide an overview of the relationship between the financial and real economic sectors and between systemic financial stability and micro-competitive effects. In Part II, we advance our core theoretical proposition—the strategic complementarity of macro and micro policy levers during financial crises. In particular, we demonstrate that policy responses that fail to consider and balance the three key dimensions—coordination among decision-makers, a systematic approach, and time consistency—run the risk of harming both macro and micro-economic well-being in the long run. Finally, in Part III, we illustrate the quite different responses to the financial crisis of the European Union and the United States along the three key dimensions. Our goal is not to provide a comparative assessment of the two systems’ responses or a trans-Atlantic scorecard, but rather to illustrate the possibilities and challenges of coordinating macro and micro responses along the three key dimensions.

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I. FINANCIAL MARKETS AND THE ECONOMY

In order to motivate our analysis of the interaction between micro and macroeconomic policy in the framework of a financial and economic crisis, we briefly outline the basic transmission between financial and real economic activity and present a snapshot of the relationship between the two crucial policy dimensions in focus, namely macroeconomic and financial stability on one hand, and competition on the other.

A. The Link between the Financial and the Real Economy

Financial markets play a pivotal role in the functioning of today's international economic system. Real economic activity such as consumption and investment depends on the provision and pricing of external funding and consumers, as well as small and medium sized enterprises and large multinationals that rely heavily on the banking sector for their financial services.³ This market for finance, however, is characterized by information asymmetries between lenders and borrowers that prevents direct and complete contracting. As a result, there is demand for an intermediate market where financial institutions act as intermediaries providing credit to borrowers and liquidity to depositors. In order to evaluate individual risk, banks will attempt to project future performance of borrowers based upon observable financial indicators, such as firms' or individuals' liabilities vis-a-vis income or assets (real estate or shares) and their market valuation. Expectations about risk and capacity to repay will be formed, aggregated across potential borrowers, and translated into a more or less diversified portfolio. Ultimately, the choice of risk and maturity transformation—that is, a bank's asset-liability management—will determine the availability and pricing of debt as well as the translation of current into future economic performance.⁴

In order to analyze the pass through of financial shocks to the real economy, economists have identified various channels linking financial markets with the rest of the economy. These channels are outlined and discussed in detail—for example, in Antony and Broer (2010)⁵—and shall only be explained here to the extent necessary to understand the main mechanisms involved in a financial crisis and their pass through to the real economy.

First, the monetarist view of transmission explains the effects of monetary policy on the financial sector, individual firm and consumer behavior,

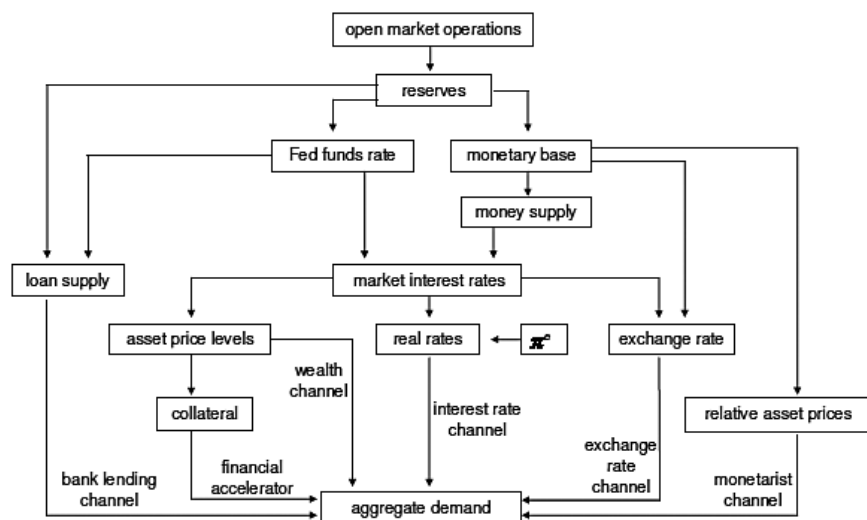
3. ORG. FOR ECON. CO-OPERATION & DEV., *COMPETITION AND REGULATION IN RETAIL BANKING* 7 (2006), <https://www.oecd.org/competition/sectors/39753683.pdf> [hereinafter OECD (2006)].

4. See, e.g., "Investigating the Link Between the Financial and Real Economy," 22 BIS Papers (April 2005), especially Konstantinos Tsatsaronis, *Investigating the Link Between the Financial and Real Economy*.

5. Jürgen Antony & Peter Broer, *Linkages between the Financial and the Real Sector of the Economy: A Literature Survey* (CPB Neth. Bureau for Econ. Policy Analysis, Document No. 216, 2010).

and ultimately, aggregate demand. Figure 1 below⁶ provides a concise graphical overview. In a nutshell, a central bank can affect the reserves of the banking sector and the money supply in the economy. Assume a contractionary monetary policy where the Fed or the ECB sells bonds/securities to decrease money supply or requires banks to hold larger shares of their assets in liquid form; that is, cash. Then, in order to sell the securities to the private sector, interest rates must rise (to make holding bonds attractive and create the desired demand), while increasing the reserve requirement reduces banks' loan capacity. The immediate effects of the operating of the interest rate and bank lending channels are lower investment (but increased saving) and consumption, and in case the long-term real interest rate is affected, lower future output and demand for durable goods. Although less important here, higher interest rates also lead to appreciating exchange rates and less competitive export industries.

FIGURE 1: FINANCIAL TRANSMISSION OF MONETARY AND ASSET SHOCKS TO THE REAL ECONOMY



On the other hand, financial assets and liabilities play a crucial role in financial transmission, since (large) shocks to asset prices, rather than monetary policy targeting inflation⁷ via interest rates, are frequently at the core of financial crises. Such was the case in 2008 (or the 1980s Japanese asset bubble and East Asia in the 1990s). Therefore, although Figure 1

6. *Id.* at 5, 16 (Figure 2.1).

7. Note that in addition to monetary policy, worldwide increasing competition in product and labor markets (as competition drives down prices) or the “interplay of increased global deregulation and a decreased role for governments in many economies” might have led to low and stable inflation. K. Rogoff, *Globalization and Global Disinflation 2* (Aug. 29th, 2003) (Paper prepared for the Federal Reserve Bank of Kansas City conference in Jackson Hole, WY.).

takes monetary policy and interest rates as the starting point of a change in asset prices, one can look at the lower left quadrant of the graph in isolation and focus on the link between asset prices and aggregate demand, thereby paying tribute to asset markets as the origin of financial instability and crisis. In the words of Antony and Broer, the relative importance of the interest rate channel and the credit channels changes substantially in a financial crisis. The types of shocks that we are concerned with primarily act through the balance sheets of agents, that is to say the financial accelerator via the balance sheet of non-financial firms and households and the bank capital channel via the balance sheet of commercial banks.”⁸

Changes in asset prices affect real economic activity via three mechanisms: (1) a pure wealth effect, (2) bank lending, and (3) the financial accelerator,⁹ together often referred to as the credit channel. The wealth effect on non-asset consumption expenditure and finally on aggregate demand in the overall economy is based upon the permanent income hypothesis, where an unexpected increase in the price of an asset increases private wealth and leads consumers to spread the gain over the remainder of their life, ultimately causing higher consumption demand. Consumption and/or investment then goes up either through a direct liquidation of assets by economic agents (households or firms), or via the Financial Accelerator, where higher valuation of assets increases the borrowing capacity and spending of otherwise liquidity constrained agents via increased value of collateral.

The magnitude and direction of these effects depends on the liquidity of the relevant asset markets, the degree of regulation in the financial markets, demographic distribution of asset ownership and, most importantly, on the nature of the assets. Given that financial markets are imperfect—*e.g.*, moral hazard on the side of the borrower, imperfect information on the side of the lender, or imperfectly enforceable and incomplete credit contracts—lenders will often require partial or full collateralization. Then, a negative shock to asset prices used as collateral directly decreases credit availability, increases the risk premium on the price, affects real economic activity, and the net worth of the borrower, which in turn accelerates by further decreasing demand for assets and hence asset prices, etc., ultimately dynamically reducing likelihood of repayment.

As far as firms and their investment decisions are concerned, changes in asset prices, especially in share prices, do pass through to the real econ-

8. Antony & Broer, *supra* note 5, at 18.

9. The term financial accelerator has been introduced by Ben Bernanke, Mark Gertler & Simon Gilchrist, *The Financial Accelerator and the Flight to Quality*, 78 *REV. ECON. & STAT.* 1 (1996), and elaborated by Nobuhiro Kiyotaki & John Moore, *Credit Cycles*, 105 *J. POL. ECON.* 211 (1997), and has since then been found to be of significant empirical relevance both for firms as well as consumers. For an excellent survey of the literature, see Antony & Broer, *supra* note 5.

omy mainly via Tobin's q . By using Tobin's q ¹⁰ to determine the optimal amount of capital and investment, decreasing asset prices do depress investment as q decreases. To sum up, changes in prices (or expectations thereof) of assets such as shares or real estate not only matter for borrowers' balance sheets, *i.e.*, firm investment and consumer borrowing capacity (in addition to ambiguous wealth effects) over time, but may in the end lead to severe balance sheet adjustments for lenders such as banks. The respective bank-lending channel at work here requires two conditions to hold: first, banks actually cut back loans when liquidity is short, and second, that intermediation, *i.e.*, risk and information pooling, is an imperfect substitute to direct contracting in the private financial market.¹¹ Liquidity shortage may arise due to a strong maturity mismatch between assets and liabilities¹² and/or undercapitalization preventing optimal risk portfolio management. Interestingly, securitization of (for example) mortgage contracts allowed banks to reduce the importance of the bank lending channel and remove illiquid loans by transforming risky individual contracts into (theoretically) diversified bundles bearing a macro rather than micro risk. The above-mentioned bank capitalization plays an important role regarding availability of loans, as there exist regulatory constraints such as the Basel accord requiring a minimum capitalization of banks on the one hand, where any reduction in a bank's net worth (*e.g.*, due to an interest rate change) puts pressure on its portfolio requiring either less loans or more equity. Lastly, it should be mentioned that the financial economy also affects perceived and real investment return risk as well as income risk. Both firms and households may postpone investment or consumption and enact precautionary savings in times of high uncertainty, thereby further depressing economic performance and recovery from a recession.

In sum, financial instability can be caused by the asset as well as liability side of a bank's balance sheet, where the former includes bank runs or systemic crisis and the latter refers to excessive risk taking by banks due to moral hazard. Both sources will be discussed in more detail and in relation to competition in the next section. In addition to causing immediate disruption of economic activity such as default or insolvency, it mainly feeds through to the real economy in the form of credit constraints both for firms and households. The financial accelerator is activated when assets used as collateral are devalued and the bank-lending channel operates via the composition of bank balance sheets, *i.e.*, credits may be expensive or squeezed when banks face liquidity or capitalization constraints. In ad-

10. Tobin's q is the ratio of market value of installed capital (*i.e.*, the value of a firm's total assets) over replacement costs of the installed capital.

11. This is actually true as soon as there are information asymmetries between borrower and lender, and information acquisition is costly or impossible. Banks can diversify risk, account for maturity discrepancies, benefit from economies of scale, and scope and lower monitoring costs due to long-run credit relationships.

12. Think of depositors requiring their money back due to a financial crisis and banks having committed this money to long-run credits (eventually subject to default in crisis based on bursting asset bubbles).

dition to the direct effects on competition, the management of such instability often involves individual bank bailouts, guarantees or direct aid packages for firms or sectors especially exposed, and thereby further amplifies the stability competition nexus.

B. *The Link between Financial Stability and Competition*

We are now in a position to focus on the potential tradeoff between financial stability and competition in the banking sector (supply side of finance) and, indirectly, in real economy sectors (demand side of finance).¹³ This analysis is key to addressing the micro and macro policy challenges resulting from a financial and economic crisis and constitutes the fundament for the economic framework of policy interaction proposed in Part II.

Overall, the correlation and interaction between financial stability and competition is complex and not clearly identified in the economic literature.¹⁴ An often-assumed negative tradeoff between competition and financial stability is found to be too simplistic and occasional at best.¹⁵ A 2010 CEPR report titled “Bailing out the Banks: Reconciling Stability and Competition” by Beck et al.¹⁶ states an inevitable interconnectedness between financial regulation and macro and competition policy but stresses that “competition and stability are not incompatible” and that prudential regulation should address the agency problems that led to excessive risk taking while crisis management and competition policy should not only be applied equally to all firms/banks in the market, but also account for specific features of the financial and banking sector (such as positive externalities of individual bank bail outs to competitors via interbank credit contracts). Other comprehensive analyses of the competition-stability nexus include Carletti and Vives¹⁷ and Carletti.¹⁸ In sum, different eco-

13. Although important, the issue of sovereign debt crisis and its respective competition considerations will be left for future work.

14. In many countries, competition in the financial sector is oligopolistic, preventing excessive competition from appearing as a primary source of the 2008 financial crisis. On the other hand, the concentrated structure somehow contributed to the crisis as some banks were systemically important, leading to moral hazard, perceived guarantees and excessive risk taking.

15. Franklin Allen & Douglas Gale, *Competition and Financial Stability*, 36 J. MONEY, CREDIT & BANKING 453, 457 (June 2004).

16. THORSTEN BECK, DIANE COYLE, MATHIAS DEWATRIPONT, XAVIER FREIXAS & PAUL SEABRIGHT, CENTRE FOR ECON. POL’Y RES. Report, *Bailing out the Banks: Reconciling Stability and Competition: An Analysis of State-Supported Schemes for Financial Institutions* (2010), <http://www.cepr.org/meets/ltm/5575/> [hereinafter CEPR (2010)].

17. Elena Carletti & Xavier Vives, *Regulation and Competition Policy in the Banking Sector*, in COMPETITION POLICY IN EUROPE, FIFTY YEARS OF THE TREATY OF ROME 260 (Xavier Vives ed., 2009).

18. ORGANISATION FOR ECONOMIC CO-OPERATION & DEVELOPMENT REPORT, *Competition and Financial Markets: Key Findings*, in OECD COMPETITION COMMITTEE ROUNDTABLE, COMPETITION AND FINANCIAL MARKETS (Feb. 2009). [hereinafter OECD (2009)].

conomic theories predict positive, zero, as well as negative correlation while empirical evidence is mixed. Matutes and Vives, for example, find that there exist multiple banking equilibria, which represent different possible levels of stability in the sector. The instability here derives from coordination problems among depositors with differing expectations regarding the quality of banks. These expectations can become self-fulfilling and confidence crises or even no banking at all may result completely independent of market structure (number of banks).¹⁹

Correlations and potential tradeoffs between competition and stability, however, will most likely be nonlinear, which led Allen and Gale to identify welfare as the fuel of analysis and approach this question by taking a welfare economic perspective, *i.e.*, by asking the crucial question of what are efficient levels of competition and financial stability? Any sensible answer to this question will, above all, depend on the theoretical framework and its underlying assumptions. In an Arrow Debreu general equilibrium framework, Allen and Gale²⁰ transpose the relationship between competition and efficiency established by the fundamental theorems of welfare into a world with financial crisis and find that “perfect competition is compatible with the efficient level of financial stability. In this sense, there is no “tradeoff” between competition and stability.”²¹ Market frictions such as transaction costs and asymmetric information justify the existence of financial intermediation and allow banks to improve risk sharing and liquidity provision. The above result then is derived when banks can write perfectly contingent and incentive-compatible contracts (a scenario where banks only write contracts they can fulfill, *i.e.*, there is no incentive to account for default) as well as (and more realistically) when they have to rely on incomplete contracts. The key here is that, with incomplete contracting, banks will take the possibility of default into account, actually attach some positive probability to such an event, and integrate such risk within their optimal strategy. Then a system of potential liquidation of a bank’s assets towards its investors and creditors emerges *ex ante* (in the case of complete markets and completely collateralized Arrow securities). In sum, both competition and financial instability here are necessary for (constrained) efficiency, while government intervention might still be desirable if one thinks of extra costs such as unemployment and bankruptcy costs. Furthermore, this result points towards market failures at the heart of empowering financial instability and the occurrence of crisis/default to be socially undesirable, while competition and the general financial market structure do not pose a threat to welfare.

19. In this model expectations lead to beliefs which lead to margins and market shares which ultimately determine the quality/probability of success of a bank (A larger bank with more depositors can better diversify). See Carmen Matutes & Xavier Vives, *Competition for Deposits, Fragility, and Insurance*, 5 J. FIN. INTERMEDIATION 184 (Apr. 1996).

20. Franklin Allen & Douglas Gale, *Financial Intermediaries and Markets*, 72 ECONOMETRICA 1023 (July 2004).

21. Allen & Gale, *supra* note 15, at 457.

Within a partial equilibrium framework, where asymmetric information introduces agency costs to the system, an actual tradeoff between competition (*i.e.*, the number of banks or charters) and financial stability emerges. The simple principle of operation is that increasing competition reduces individual banks' profits and boosts risk-taking incentives. The problem of moral hazard emerges when banks are debt financed and bank managers, acting on behalf of shareholders, stand to benefit from the upside of risky business while not bearing its downside of losing debt (here deposits). This is often referred to as limited liability due to some form of deposit insurance, guarantee, or lending of last resort based on "too large or too interconnected to fail" considerations by a central bank. Growing competition—here modeled as the ratio of banks over supply of funds/depositors—can aggravate this problem by shifting the distribution of potential profits across risk downwards—often referred to as reducing the charter value of a bank—thereby increasing the incentive to take additional risk and exploit the absence of any convexity that the cost of default on debt would normally bring about.

Similarly, from a dynamic perspective, banks already in trouble due to partial or complete erosion of their margins might engage in similarly excessive risk taking, as outlined above and often referred to as "gambling for resurrection." In a nutshell, banks choose a rate of return on their investments or loans that is negatively correlated with the probability of success ($=1/\text{risk}$) subject to two equilibrium conditions: First, the average cost of funds must be equal to the expected return on investments, and second, the expected return on investments should be maximized. Clearly, the more competitive the market, *i.e.*, the more banks there are relative to the supply of deposits/funds, the higher the price and smaller the individual bank's disposal of those funds, the lower the profits, and hence, the higher the required return on the deposits and the corresponding choice of risk. Ultimately, if one assumes a given supply of funds, it is found that the optimal number of banks in the market is clearly below the free entry level.²² If there is not only competition in the market for deposits and banks actually do not invest deposits themselves but hand out loans to entrepreneurs or firms that themselves choose how to invest, competition in the banking sector, which at the same time is then a market for loans, actually leads to a positive correlation between competition and financial stability. Although entrepreneurs have the same objective function as banks and are in theory subject to the identical low-profit-high-risk trade off, competition among banks reduces interest on loans and thereby increases profitability, ultimately reducing risk taking and stabilizing the whole financial system from the bottom up.²³

22. *Id.* at 465.

23. This result has been shown by John H. Boyd & Gianni De Nicoló, *The Theory of Bank Risk Taking and Competition Revisited*, 60 J. FIN. 1329 (June 2005), who also underlined that, given the banking market is a truly intermediary platform, the beneficial stability

Similarly, in dynamic set ups, when banks consider the effects of choice of risk in the short and medium run, competition may very well increase and decrease stability. In other words, risky investments may lead to large changes in market share while prudential ones may avoid them. Then, if banks have small market shares as the market is competitive, they may want to avoid risk out of fear of going permanently out of business (absorbing barriers) or face increasing returns to scale and risk (reflective barriers; *i.e.*, although their market share temporarily becomes 0, they will eventually bounce back). At the other end of the spectrum, *i.e.*, with large market shares (low competition), a reflective barrier implies prudential bank lending while an absorbing one will incentivize large risk taking.

Insights on the nexus between competition and macro stability can be derived from various other perspectives. We focus here on three: (1) spatial competition, (2) Schumpeterian competition, as well as (3) systemic considerations. First, spatial competition introduces heterogeneity in financial products due to bank location or quality differences, where search or information acquisition is costly and frictions in the form of lock-in may arise. The main finding of this line of work is that organizational (industrial) structure matters for efficiency and financial stability. While small unitary banks (*i.e.*, one bank that consists of one branch in one location) have a strong incentive to exploit local monopoly and charge high prices, large branch banks (*i.e.*, one bank that features many branches in different locations) may want to compete for future business in different locations and for different product lines, hence avoiding classical lock-in. In this sense, competition among banks may not be efficient.²⁴ Regarding stability, competition may entail diversification and risk pooling when one bank is allowed to occupy various locations; however, the exact structure of location (*e.g.*, alternating versus adjacent) will determine whether there is a tradeoff (adjacent locations again provide local market power) or not (alternating locations do not affect competition and allow stability through diversification without loss of competition). Ultimately, switching costs do play an important role in reality and weaken such theoretic results regarding market structure.²⁵

effect of loan market competition may dominate the detrimental one of deposit market competition.

24. Empirical evidence from a US-Canada comparison between 1920 and 1980 by Bordo, Rockoff, and Redish (1993), as well as by Carlson and Mitchener (2006), confirm that branch banking generally is more competitive. *See generally* Michael D. Bordo, Hugh Rockoff, & Angela Redish, *A Comparison of the United States and Canadian Banking Systems in the Twentieth Century: Stability vs. Efficiency?* (Nat'l Bureau of Econ. Research, Working Paper No. 4546, 1993); *see also* Mark Carlson & Kris James Mitchener, *Branch Banking, Bank Competition, and Financial Stability*, 38 J. MONEY, CREDIT & BANKING 1293-1328, (Aug. 2006).

25. Such switching costs have been repeatedly found to be important. *See, e.g.*, OECD (2006), *supra* note 3.

Second, Schumpeter²⁶ argued that innovation is driven by the incentive to acquire market power and monopoly rents, and ultimately, cumulates in a dynamic system of creative destruction. When transposing this idea into the framework of financial markets, it immediately becomes clear that financial stability here may not be consistent with efficient welfare provision. In a “winner takes all” world, where banks first choose how to invest into the development of a financial product and then compete in prices, only one monopolist bank survives each period. Although this is an extreme form of instability, this bank will be the most innovative bank producing the best (highest payoff) product while charging an aggregate price premium that exactly equals the social value of its innovation, hence producing allocative efficiency. Here competition clearly produces financial instability and optimal welfare at the same time. In case banks are provided local or regional monopolies via regulation, welfare will be suboptimal as investment will be either too high or too low (*i.e.*, either the less innovative bank(s) are guaranteed positive profits or the most innovative bank is stripped of its monopoly profits.)²⁷

Last but not least, the systemic nature of the financial and banking sector gives rise to important insights regarding competition and stability. This perspective is especially instructive when comparing the impact of crisis management and bank bailouts in the financial sector with its counterparts in real economic sectors such as the automotive industry. Economists usually refer to “contagion” or “systemic risk” when describing detrimental network dynamics in the financial economy. Due to the nature of interbank relations and the respective channels, above all the credit channel and payment systems we have described in Part I that link banks with consumers, firms and other banks, a small shock such as insolvency of one bank (*e.g.*, Lehman Brothers) can affect the whole market, leading to a domino effect resembling the spreading of a virus through a blood circulation system. Such contagion is well-documented and researched in the economic literature, but can academics actually establish a systematic correlation between competition and financial fragility? That is to ask; is it possible to identify the possibility, speed and strength of contagion as a function of market structure and competitive environment? In a competitive banking sector, each bank has a relatively small market share, acts as a price taker assuming that its actions are not affecting the market equilibrium, and therefore, takes its decisions in isolation and has no incentive to provide liquidity to any troubled or bankrupt competitor. If, on the other hand, there are only a limited number of banks, they will act strategically, taking account of the potential effects of contagion and thereby having a strong incentive to provide liquidity to the insolvent competitor by forgoing immediate execution of debt, prolonging its maturity, or even forgiving a fraction thereof.

26. See JOSEPH A. SCHUMPETER, *CAPITALISM, SOCIALISM AND DEMOCRACY* (3d ed. 1950).

27. See Allen & Gale, *supra* note 15, at 456–57.

This scenario entails an obvious private-provision-of-public-goods problem. Financial stability is the relevant public good, and a coordination problem prevents banks from providing the necessary liquidity to competitors in order to stabilize the whole system.²⁸ The more banks compete in the market and the stronger the information asymmetries and market frictions involved, the less likely a cooperative equilibrium may be achieved and/or sustained.²⁹ This systemic component of financial markets, including currency, inter-bank and capital markets, however, represents a double-edged sword in the sense that, on the one hand, shocks spread easily and eventually build up to a crisis and complete shut down, but on the other hand, crisis management may take advantage of the network structure and macro stabilization may be achieved without jeopardizing competition policy goals. Individual bailouts or national guarantees among others are ultimately not only profiting the receiving institution and increasing its competitiveness, but also may represent a positive externality for the whole system, including: competitors that hold stakes in the receiving bank as creditors, business partners, or reputational concerns eventually affecting the whole industry (investor behavior, irrational stock trading, panics, self-fulfilling prophecies or bank runs.)³⁰ Acknowledgment of these ambiguous dynamics underlines the special nature of the financial sector and will be essential when analyzing strategic interaction between micro and macro policy.

In sum, the diverse economic literature on competition and financial stability as well as related empirical evidence informing research and policy making alike reflect a historical component. Views on competition in the banking sector have changed along with lessons learned or new insights derived during episodes of crisis, where deregulation in the U.S. banking sector during the 1970s and 80s magnified the agency problem (deriving from U.S. deposit insurance introduced in 1934) and led to a dramatic increase in bank failures.³¹ Beck et al.³² generalized this result by using data on sixty-nine countries from 1980 to 1997 and finding “that crises are less likely in economies with more concentrated banking systems

28. The same logic applies to the current sovereign debt crisis and the coordination of countries such as stable Euro area members (e.g., Germany) helping out a troubled periphery (i.e., Greece et al).

29. See, e.g., Lawrence S  ez & Xianwen Shi, *Liquidity Pools, Risk Sharing and Financial Contagion*, 25 J. FIN. SERVS. RES. 5 (2004); Mark Bagnoli & Barton L. Lipman, *Provision of Public Goods: Fully Implementing the Core through Private Contributions*, 56 REV. ECON. STUD. 583 (Oct. 1989).

30. Note that bank runs and panics can be driven by fundamentals, i.e., the business cycle, but also by irrational expectations based on those fundamentals. Hence, whether bank runs occur largely depends on equilibrium selection in a multiple equilibrium environment and therefore constitutes a problem for preventive policymaking.

31. See Michael C. Keeley, *Deposit Insurance, Risk and Market Power in Banking*, 80 AM. ECON. REV. 1183, 1184–85 (Dec. 1990).

32. Thorsten Beck, Asli Demirg  c-Kunt & Ross Levine, *Bank Concentration, Competition, and Crises: First Results*, 30 J. BANKING & FIN. 1581 (May 2006).

even after controlling for differences in commercial bank regulatory policies, national institutions affecting competition, macroeconomic conditions, and shocks to the economy.” Based on such findings, competition policy in the financial sector often gave rise to exceptions, such as the exemption of banking from competition policy (the Competition Act of 1998) in the Netherlands until 2000 or even curiosities such as the fact that competition policy in banking in Italy actually was conducted by the Bank of Italy until 2005.³³ While a mix of tight regulation (*e.g.*, of rates) and complacency with collusion or special competition rules in the EU banking sector has been substituted by full applicability of merger regulations (*e.g.*, Portugal in 2003 or France with the Credit Lyonnais/Credit Agricole merger decision of the French Supreme Court, also in 2003) and a tough stance against cartels (such as the Austrian “Lombard” Club in 1996 or payment system cases such as VISA 2007) and abuse of dominant position, the United States has ended banking exemptions from antitrust with various Supreme Court decisions (1944, 1963, and 1964) but still retains merger regulations where the critical upper bound Herfindahl-Hirschman Index (HHI) remains higher for banks than other firms.³⁴ However, also in European (Art. 21(3) of the merger regulation), Swiss, and Canadian merger proceedings the possibility of overriding competition considerations due to stability concerns continues to exist. In addition, the European Union maintains state aid provisions, where both stability and competition considerations directly interact with each other and which, due to the nature of crisis management, became the reference framework for coordination of EU macro and micro policy in response to the 2008 financial meltdown.³⁵

To conclude this section, we return to its starting point, namely the question of social welfare. We have found that competition may reduce financial stability and hence create a welfare tradeoff, but this result by no means can claim generality or robustness. But even if we followed many of the above-mentioned policy makers in believing that there is a clear-cut negative tradeoff between competition and stability, the prioritization of stability over competition concerns does not automatically follow. The initial question regarding optimal competition and stability levels can be rephrased by asking: what is the welfare tradeoff between concentration and financial instability? Policy makers should ask: what is costlier to society and/or with respect to a policy target?

Overall, competition encourages efficient and innovative financial services, while stability is essential to the systemic trust on which the sector depends. Costs of financial crisis and related economic output loss/recessions are both large and very visible due to their sudden emergence and their confinement to short periods of time. Efficiency costs deriving from imperfect competition are less spectacular in size and hence less visible or

33. Carletti & Vives, *supra* note 17.

34. *See id.* at 11.

35. *See infra* Part III.A.

consciously perceived (and also more difficult to measure); however, they are longer lasting and arise continuously over large periods of time. In sum, there are substantial efficiency gains to be achieved via increased competition. This just shows that the question of prioritizing policies in case of negative correlation is a difficult one in itself; however, as we will argue, it can be foregone due to strategic complementarity (and not substitutability) of competition and macro policies as well as prudential regulation.

II. AN ECONOMIC FRAMEWORK FOR POLICY INTEGRATION

The fundamental idea behind our framework to analyze policy integration is the strategic interaction between different governmental interventions. Policies rarely can or should be executed in complete isolation from each other as they affect the payoff structure of other policies. Policy targets often are subject to cross-policy effects and welfare tradeoffs. Hence, in game theoretic terms, one enters the world of Nash equilibria, where equilibrium strategies of a microeconomic policy maker (*e.g.*, a competition authority or government department) must take account of any eventual policies taken by its macroeconomic counterpart (*e.g.*, a treasury, banking regulator, central bank or even nation state) and vice versa. Even more so, it very often will be the case that optimal policymaking must account for strategic interactions and that eventually one integrated (or coordinated) policy strategy should be adopted to achieve an optimal mix of policy goals. In the case of macro stabilization and competition policy the unit in which payoffs are measured is welfare; however, it is not necessarily the same distributional preference (here total versus consumer welfare) that unites the respective policymakers.

A. *Strategic Policy Substitutability and Complementarity*

According to Bulow et al.,³⁶ two products are called strategic substitutes (complements) when more aggressive play in the form of lower prices or higher quantity produced by one firm in a given market decreases (increases) marginal profitability of a competing firm in the same market.³⁷ The adaptation to policymaking follows as such: instead of profits, we can think of a competition and financial authority's respective objective—*e.g.*, some measure(s) of social welfare resulting from competition $W(C)$ or financial/macro stability $W(M)$ —and instead of choosing quantities or prices as strategic variables, we assume regulation or active policies such as bail outs, guarantees, bad asset acquisition, or enforcement of competition rules, including fines or prohibition of mergers. Let us denote competition policy as $P(C)$ and macro stabilization as $P(M)$. Then, a com-

36. Jeremy I. Bulow, John D. Geanakoplos & Paul D. Klemperer, *Multimarket Oligopoly: Strategic Substitutes and Strategic Complements*, 93 J. POL. ECON. 488 (June 1985).

37. Note that classic substitutes or complements refer to total costs or payoffs rather than marginal changes.

petition authority will regard its policy as a strategic substitute to macroeconomic policy if

$$\frac{\partial^2 W(C)}{\partial P(C) \partial P(M)} < 0 \quad (1)$$

i.e., if a marginal increase in financial stabilization by a central bank or government reduces the marginal increase (effectiveness) of competition policy in terms of its policy target—here, for example, consumer welfare. If (1) were positive, the policies would be strategic complements, and macro policy would reinforce its competition counterpart.

In case we assume symmetry, the same logic will apply from the perspective of a macro policymaker; for example, a central bank would consider its policy to be a strategic complement if

$$\frac{\partial^2 W(M)}{\partial P(M) \partial P(C)} > 0$$

i.e., an increase/tightening in competition policy would actually reinforce macro/stabilization policies. It follows that, in theory, the optimal response of a competition authority to more macro stabilization in presence of strategic substitutability will be to reduce its own policy efforts (again the same holds true from the perspective of a macro policymaker), while a central bank may find it optimal to increase its efforts in response to tighter competition policy in case of strategic complementarity. It must, however, be noted at this point that we assume that competition policy actually always increases competition, while macro policy always increases financial and/or macroeconomic stability. Furthermore, given our analysis in Part I and the conclusion that there most likely are some welfare (Pareto) optimal, intermediate levels of competition and stability, the absolute position on the spectrum of both competition and financial stability will crucially determine the sign of the respective strategic effects of policy. In other words, macro policy can act as a complementary force to competition policy up until the optimal level of competition where it actually starts to reverse its effect on the marginal efficiency of tighter competition policy. This is a logical conclusion because the policy outcome dimension here is welfare and beyond optimal levels of competition and stability, the direction of marginal policy towards the welfare target changes its sign, *i.e.*, a negative change (reduction) in competition and stability defines the “new” policies P(M) and P(C). Note also that nothing will change in the strategic relationship between policies if both policymakers operate in a world of too much stability and competition at the same time (see Figure 2). The key role of welfare as the unifying policy target dimension in this framework complements its general importance in the analysis of the competition-stability interaction as stressed by Allen and Gale (2004).

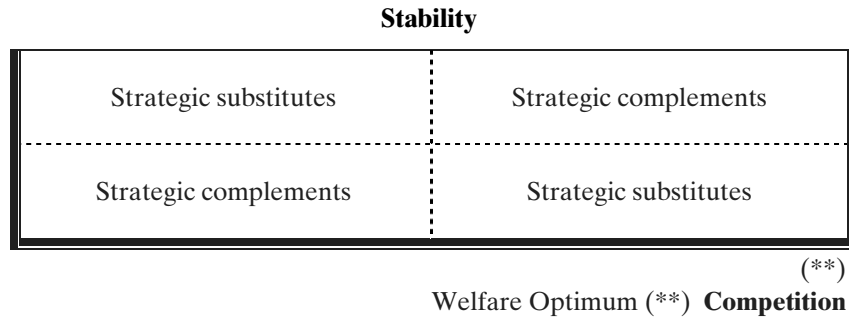


FIGURE 2: STRATEGIC COMPLEMENTARITY IN RELATION TO WELFARE

B. Strategic Policy Interaction in the Crisis Context

In order to apply our framework of policy interaction to the 2008 financial crisis in a structured and coherent manner, we will order our discussion along the timeline. We identify a sequence of three periods (pre-crisis, actual crisis, and post-crisis) as well as three policy dimensions/levers (competition policy, macroeconomic policy/crisis management, and prudential regulation). In the pre-crisis world, macroeconomic policy, mainly in the form of interest rate and monetary policy, mostly was conducted independently of any competition considerations or had priority over competition considerations due to the perceived negative correlation, discussed above. Furthermore, any active policymaking in the financial sector took place against the background of a regulatory framework that proved to be incapable of providing the correct balance between risk and the search for return, ultimately leading to a crisis situation.³⁸ The depth and breadth of the adverse effects, as well as the speed of contagion required an immediate response in the form of bank bailouts, capital provision by central banks, and ultimately the taxpayer, guarantees, the creation of bad banks, as well as the exchange of liquidity for toxic assets by public authorities and central banks or supportive fiscal and monetary policy in general. All these measures can be summarized as “macroeconomic crisis management” and refer to active policymaking with some limited time horizon. However, they not only support the financial economy’s quest to re-stabilize (re-liquidize), but also have strong repercussions for market structure and competition in the banking sector, as well as the availability and pricing of financial services to other sectors, both in the short and medium run. Vice versa, any competition policy during the crisis immediately interacts with the a.o. stabilization mechanisms, most obviously when it comes to the supervision of mergers, acquisitions, as well as the chosen selection/distribution mechanism, timing and respective incentive structures of bail out programs. In short, the nature of macro intervention and stabilization immediately creates an environ-

38. See OECD (2009), *supra* note 18.

ment of strategic policy interaction with competition policy (see Figure 3 for an overview).

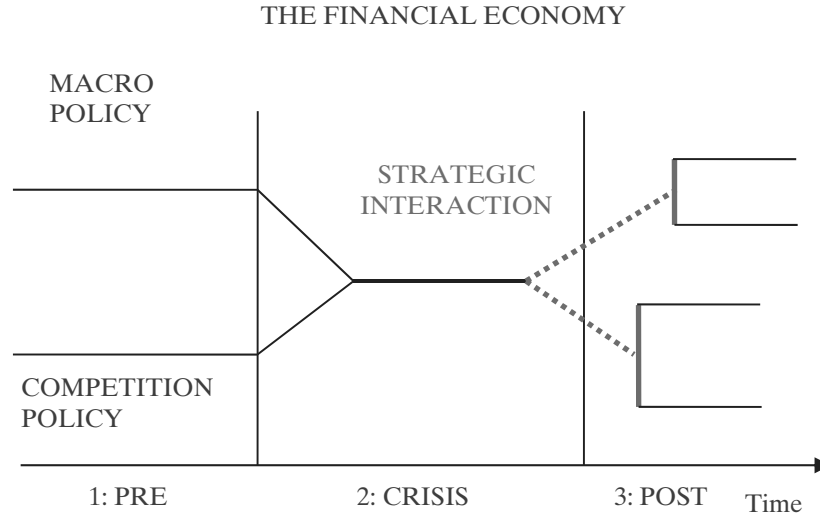


FIGURE 3: A TIMELINE OF POLICY INTERACTION

Post-crisis levels of stability and competition are determined by the exit strategy chosen from the crisis management regime as well as the reformed prudential regulatory framework.³⁹ In a way, the regulatory framework constitutes a mechanism able to fine-tune the co-existence of competition and stability in the long run and to achieve complementarity between macro management and competition policy in the short and medium run. Although the most popular regulatory instrument was a minimum capital requirement for banks—such as the 1988 Basel Accord—to reduce incentives for risk taking and moral hazard,⁴⁰ it has been shown that additional regulation such as deposit rate controls were necessary to achieve Pareto (welfare) efficient outcomes.⁴¹ Other so-called safety net provisions, such as deposit insurance or lending of last resort, aggravate risk taking incentives and moral hazard and need to be complemented by corrective regulation. Overall, well-designed regulation can provide for a competitive and financially stable level playing field; however, if uneven across economies or states, it may act as a barrier to competition that is already complicated by asymmetric information, switching costs, and network economies.⁴²

39. Regulation did not achieve the correct balance between risk and the search for return.

40. See CEPR (2010), *supra* note 16.

41. Thomas F. Hellmann, Kevin C. Murdock and Joseph E. Stiglitz, *Liberalization, Moral Hazard in Banking, and Prudential Regulation: Are Capital Requirements Enough?*, 90 AM. ECON. REV. 147 (Mar. 2000).

42. See Carletti & Vives, *supra* note 17, at 4.

We see that policies differ in type and duration, allowing us to distinguish two broad “policy levers.” On the one hand, there is prudential regulation constituting the long-term framework or “base lever” within which other policies interact. On the other hand, there are macroeconomic policymaking and its special short-term branch—crisis management—as well as competition policy, the “action levers.” By now we have established that crisis management directly affects competition (policy) due to its nature (again, think of EU State Aid provisions as part of competition policy). The strategic interaction between these policies will depend on whether the regulatory environment is sufficiently capable of accounting for adverse incentives towards risk taking, thereby allowing bank bailouts and guarantees to stabilize the economy without jeopardizing competition in the banking sector and indirectly, through the availability and pricing of finance, in the real economy. Then, the issue becomes to which extent stability considerations should or have to influence competition policy design and vice versa.

At this point it seems important to point out that competition issues in the real economy—even if real economic sectors such as the energy sector resemble financial markets via trading financial instruments—crucially differ from those in the financial economy due to the absence of systemic risk. It follows that bailouts are, *ceteris paribus*, more likely to support already weak and potentially inefficient firms as network dynamics inherent in the interbank lending machinery are absent. Bailouts, in most sectors, then, signal that there has been overcapacity in the market, and conditions of reduced activity by bailed out firms can be required for sustained competition while in the banking sector the fear of too little activity and the freeze of “inter-banking” was the main driver for macro management and positive externalities. As outlined above, this can lead to complicated effects and regulatory challenges. Following this line of thought, the EU Markets in Financial Instruments directive applied to the energy sector (gas and electricity), for example, would have negative effects on competition as SMEs would not find it feasible to hold large amounts of equity or establish an in-house bank that executes trading on the international energy markets. As a result, prices in gas, electricity, and other commodities such as metal or food would increase.⁴³

In sum, a post-crisis regime will depend on the division of labor between prudential regulation, macro policy, and competition policy, where strategic complementarity between competition policy and macro/crisis management could derive from a solid understanding of the special features of the banking sector as well as from prudential regulation that not only levels the playing field but also efficiently solves the moral hazard problem of excessive risk taking related to bail outs, too big to fail considerations, LOLR, and the basic information asymmetry in the financial economy. This mix will determine whether we are actually going forward into or back to the future. Ultimately, the degree of complementarity

43. See *Frankfurter Allgemeine Zeitung*, xx (Aug. 2011).

achieved through the prudential regulatory framework of choice will determine whether the focus must be on a welfare optimal balance between competition and macro policies or competition and financial stability actually mutually reinforce each other. Along these lines, a 2009 OECD report summarizes as follows: Because regulatory failure led to the crisis, the main solutions will come from prudential regulation and other measures that change incentives, not from competition policy. Competition authorities do have a role to play in ensuring that exit strategies are built into rescue interventions so as to prevent them from harming competition in the longer term and hindering recovery. This last statement refers to the careful design of crisis management and the respective exit strategies provisioned by policy makers so as to stabilize the financial economy without creating long-term competitive distortions and effects. This exit from large-scale crisis management, *i.e.*, the unwinding of extraordinary liquidity provisions, guarantees, and public capital holdings,⁴⁴ constitutes without doubt the second main issue besides prudential regulatory reform when it comes to determining the future framework of competition and stability in the financial sector.

The evaluation of strategic interaction between active policy levers in the United States and the European Union will be the focus of Part III. However, before identifying similarities and differences in policy framework and approach on both sides of the Atlantic, we will shortly spell out the three key dimensions that we believe to constitute the backbone of any comprehensive analysis (and efficient design) of crisis and post-crisis policy interaction.

C. The Emergence of Three Analytic Key Dimensions

Given the above framework, three key dimensions of policy integration naturally emerge and will serve as the structural backbone of our comparative analysis of the EU and US policy response to the 2008 financial crisis. These key dimensions are (1) coordination, (2) systematic approach, and (3) time consistency. In some way, they correspond to a three-dimensional construct of the policy space, where different actors interact and influence each others' strategies and payoffs, different systematic linkages exist between qualitatively distinct boxes such as competition and macroeconomic stability, and where this whole system is dynamic, changes its fundamentals over time, and current actions should account for their repercussions regarding future outcomes. In short, coordination and systemic responses derive from the need for policy integration, while time

44. See OECD (2009), *supra* note 18. Like the initial interventions, the sale by the state of stakes in financial firms back to the private sector and the lifting of guarantees have great potential to distort competition. Exit strategies that protect and promote competition are therefore essential, both when designing interventions and when phasing them out. Exit strategy issues for competition include dealing with (a) mergers of large financial institutions, (b) barriers to entry in financial markets, (c) the sale of government stakes and (d) ending government support.

consistency will be essential due to the particular timing of events, policies, and their targets and effects.

From the above analysis, it should be clear that there exists some correlation between competition and financial stability. Given that welfare should be the common goal of all policy makers and their actions strategically interact in determining this outcome, *coordination* among different policy makers—both technical agencies as well as sovereign states or government departments—will be highly desirable and even necessary in order to tackle a crisis efficiently and create an optimal post-crisis environment. For example, the level of supervision, its degree of (de)centralization, as well as the coherence of various policy targets will be decisive in determining the efficiency of measures and policies taken across Europe and the United States following the 2008–09 Global Financial Crisis. With respect to the European situation, an array of well-known economists points out that “coordination costs between national regulators, both in terms of resources, but perhaps in the context of a systemic crisis more importantly in terms of time, call for a coordinated or centralized intervention and resolution authority.”⁴⁵

Systematic approach refers to both policy integration and some related timing issues. Here the different systematic features of the financial and real economic sectors as outlined in Parts I and II.B will be important (potentially positive versus negative externalities of uneven intervention). Furthermore, the interplay between immediate crisis management, prudential regulation, and competition policy must be accounted for in a systematic manner as suggested in Part II.B. While an ad hoc approach to crisis management increases moral hazard as opposed to a systematic one, the short-run tax burden might also be lower. From an ex ante perspective, bailout systems should avoid the creation or amplification of moral hazards in the future, as this was the very behavior at the core of building up instability in the first place. With a view to an efficient ex post policy regime, many economists emphasize the highly complementary role of adapting prudential regulation to this end.⁴⁶

Time consistency focuses on the dynamic dimension of the systematic approach, *i.e.*, identifying and aligning short-run and long-run effects of policy. Crisis management often is subject to a severe discounting of the middle and long run due to the above outlined perception of financial instability being much more costly and pressing than continuous efficiency losses due to imperfect competition. However, achieving short-run targets does not necessarily come at the cost of jeopardizing long-run incentives.

We now turn to an examination of EU and U.S. responses to the recent financial crisis and evaluate them across the three key dimensions.

45. See CEPR (2010), *supra* note 16, at 75.

46. *Id.*

III. EU AND U.S. RESPONSES ALONG THE THREE VECTORS

The 2008–09 financial crisis rolled out chaotically and, at times, virtually cataclysmically. It is tempting to judge the crisis responses of key governmental decision-makers from the perspective of the relatively serene aftermath, forgetting that they were in some sense muddling through the fog of war. Our point here is not to judge the overall success of the policy responses in balancing micro and macro economic factors. Rather, it is to evaluate the extent to which policy makers seemed to take into account the three major dimensions—coordination, systematization, and time-consistency—and to illustrate the significance of the three dimensions.

By comparing the responses in the European Union and the United States, we do not mean to try to pick a winner. Regulators and policy actors on the two sides of the Atlantic were operating under quite different institutional structures and economic and political constraints. Our comparison is limited to considering what was done and, in comparative perspective, what was possible.

A. EU Responses

1. Coordination

The European Union as a political, supranational entity interacts with its Member States through a variety of legal and economic channels.⁴⁷ The two treaties in force at the time of the crisis—the Treaty of the European Union and the Treaty of the European Community (now rolled into the Treaty of the Functioning of the European Union (“TFEU”))⁴⁸—configured a legal framework allowing for a number of possible responses, ranging from single member state to fully coordinated actions.⁴⁹ The chosen responses depended less on treaty requirements than on voluntary undertakings by the Member States and, therefore, on the political and economic circumstances at the time.⁵⁰

The aftermath of Lehman’s bankruptcy made clear that the magnitude of the crisis called for a unanimous European voice. The European Council of Economic and Finance Ministers not only endorsed a full commitment to backing up European financial institutions, but also stressed the need to coordinate at the EU level while recognizing that most of the ac-

47. On the characteristics of the European Union and its functioning, *see generally* JOHN McCORMICK, *THE EUROPEAN UNION: POLITICS AND POLICIES* (2008).

48. “The Treaty of Lisbon entered into force on 1 December 2009. It provides the EU with modern institutions and optimised working methods to tackle both efficiently and effectively today’s challenges in today’s world. In a rapidly changing world, Europeans look to the EU to address issues such as globalisation, climatic and demographic changes, security and energy. The Treaty of Lisbon reinforces democracy in the EU and its capacity to promote the interests of its citizens on a day-to-day basis.” *See Treaty of Lisbon*, EUROPA, http://europa.eu/lisbon_treaty/index_en.htm (last visited Oct. 17, 2011).

49. *See id.* 271 *et seq.*

50. COUNCIL OF THE EUROPEAN UNION, *Immediate Responses to Financial Turmoil—Council Conclusions* (Oct. 7, 2008).

tual measures would be implemented at the national level.⁵¹ On the one hand, this approach implied a multilevel coordinated action between the European Union and its Member States and, on the other, required institutional coordination within the political and the technical branch of the European Union itself—represented by the European Council and the European Commission, respectively. Therefore, following the ECOFIN declaration, the European Council was left with the task of solving the anticipated coordination problems by enacting a mechanism ensuring policy continuity, (*i.e.*, coherence with the internal markets policies), as well as flexibility, transparency, and respect of free market competition.⁵² Yet, the national dimension of most banks required Member States to play the leading role⁵³ when designing both general schemes and ad hoc interventions. Facing a major risk of internal market distortions due to negative cross-border/spill-over effects, the European Commission had to assume the crucial task of leveling the playing field through the implementation of a community-wide legal framework.⁵⁴

2. Systematic Approach

Built upon Article 107 of the TFEU, the general legal framework chosen to enact a coordinated European response to the financial crisis was to be found in the rules preventing a distortion of competition through the granting of public money, the so-called state aids. Importantly, then, the implementation of the crisis response was sifted through a legal filter intended to protect micro-competitive distortions.

Although Article 107.1 of the TFEU generally forbids state aids that (1) distort competition and (2) affect trade between Member States,⁵⁵ some exceptions to this prohibition are made (Article 107.2 TFEU),⁵⁶ including the circumstances under which an exemption for a specific state

51. *Id.* (“We agree to coordinate closely in our actions and to take into consideration potential cross-border effects of national decisions. We agree that public intervention has to be decided at national level in a coordinated framework.”).

52. *Id.*

53. *Id.*

54. Neelie Kroes, *Competition Policy and the Crisis—The Commission’s Approach to Banking and Beyond*, 1 COMPETITION POL’Y NEWSL., at 3 (2010).

55. TFEU Article 107.1 (“Save as otherwise provided in this Treaty, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favoring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the common market.”).

56. *Id.* Article 107.2 (“The following shall be compatible with the common market: (a) aid having a social character, granted to individual consumers, provided that such aid is granted without discrimination related to the origin of the products concerned; (b) aid to make good the damage caused by natural disasters or exceptional occurrences; (c) aid granted to the economy of certain areas of the Federal Republic of Germany affected by the division of Germany, in so far as such aid is required in order to compensate for the economic disadvantages caused by that division.”).

aid may be granted (Article 107.3 TFEU).⁵⁷ Thus, Article 107. 3, section (c) establishes the legal basis to allow state aid in individual cases: “aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.” While section (b) represents an exceptional ground applicable on a general basis and therefore ultimately chosen as the legal basis to enact the financial crisis regulation: “aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.”⁵⁸

As outlined in the case law, the definition of a state aid implies four cumulative elements: (1) it must be public money; (2) it must confer an advantage to the recipient; (3) it must be selective; and (4) it must imply an effect on trade or a distortion of competition.⁵⁹ Additionally, on the basis of the 2004 Guidelines on state aids for firms in difficulties,⁶⁰ a major distinction between rescue, *i.e.*, short-term aid,⁶¹ and restructuring, *i.e.*, long-term aid, has to be made. While the first is designed to keep afloat a firm during a maximum period of six months (defined as both temporary and reversible), restructuring aid implies a much wider commitment (characterized as permanent and irreversible) and thus is necessarily accompanied by a restructuring plan.⁶² However, regardless of the form, an aid granted to a firm in difficulties must be in any case appropriate to fulfill its objectives and restricted to the necessary and proportional minimum.⁶³

57. *Id.* Article 107.3 (“The following may be considered to be compatible with the common market: (a) aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious underemployment; (b) aid to promote the execution of an important project of common European interest or to remedy a serious disturbance in the economy of a Member State; (c) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest; (d) aid to promote culture and heritage conservation where such aid does not affect trading conditions and competition in the Community to an extent that is contrary to the common interest; (e) such other categories of aid as may be specified by decision of the Council acting by a qualified majority on a proposal from the Commission.”).

58. The 1995 decision on Credit Lyonnais opened the door for such use in case of a systemic crises. *See* Case 95/547/EC: Commission Decision of 26 July 1995 giving conditional approval to the aid granted by France to the bank Crédit Lyonnais [1995] OJ L 308 , 21/12/1995 p 92 - 119 at Section 3.2. For a summary of the decision, *see* Press Release, European Comm’n, Credit Lyonnais: Commission Approves the French Government’s Aid Plan in Return for a Serious “Slimming Cure” (July 26, 1995) *available at* <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/95/829&format=HTML&aged=1&language=EN&guiLanguage=EN>.

59. For a detailed discussion on the relevant cases and their interpretation see P. M. ROTH, ET AL., *EUROPEAN COMMUNITY LAW OF COMPETITION* 1505 *et seq* (2008).

60. Commission Communication, 2004 O.J. C 244/2 (Community Guidelines on State Aid for Rescuing and Restructuring Firms in Difficulty).

61. Short term aid refers to a period of up to six months. *Id.* ¶ 15.

62. *Id.* ¶¶ 16–17.

63. *Id.* ¶ 40.

Starting with Northern Rock in 2007,⁶⁴ the Commission acted on the basis of Article 107.3(c) and the 2004 Guidelines in order to approve a series of individual measures designed to rescue firms in difficulties.⁶⁵ However, the fall of Lehman affected not only firms in difficulties, but also perfectly sound institutions simply unable to get liquidity due to the freeze of liquidity in the financial markets. Facing a much wider set of eventual recipients for whom the 2004 Guidelines were not even applicable,⁶⁶ together with the conclusions of the ECOFIN Counsel exhorting Member States to help their national banking sector,⁶⁷ the European Commission ultimately decided to adopt an ad hoc general legal framework on the basis of 107.3(b).

3. Time Consistency

Notwithstanding criticism by Member States that considered themselves to be in a better position to deal with national bank bailouts,⁶⁸ former Commissioner Kroes stood firmly in favor of the role of a comprehensive competition policy in order to assure future economic recovery.⁶⁹ Thus, a conscious balance of short-term and long-term effects characterizes all four Communications approved by the Commission on the basis of Article 107.3(b).

First, the Banking Communication⁷⁰ addressing the criteria of compatibility of government guarantees and recapitalizations was kept very much in line with the 2004 Guidelines by establishing that these had to be non-discriminatory, based on objective criteria, proportional, and limited in time and scope in order to avoid moral hazard problems. Additionally, incentives were aligned through a minimum contribution secured by the aid receiver or by the financial sector as well as by structural adjustment measures. On the basis of this instrument, nineteen guarantees for almost € 2747 billion were passed plus € 402.8 billion in ad hoc guarantees.⁷¹

Some months later, the Recapitalization Communication⁷² brought additional guidance on the compatibility of state aids to recapitalize banks

64. Commission Press Release, IP/07/1859 (Dec. 5 2007), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/1859>.

65. The Commission approved six rescuing aid measures in the banking sector (starting with Northern Rock in December 2007) and one restructuring measure. *Id.*

66. Following the Guidelines, only firms in difficulties are eligible to be granted state aid.

67. See COUNCIL OF THE EUROPEAN UNION, *supra* note 50.

68. See Stephen Castle, *European Regulators Again Revise Bank Subsidy Rules*, N.Y. TIMES, Dec. 2, 2008, <http://www.nytimes.com/2008/12/03/business/worldbusiness/03euro.html>.

69. See Kroes, *supra* note 54.

70. Banking Communication (OJ 2008 C-270/8) (Oct. 2008).

71. Press Release, European Comm'n, State aid: Scoreboard shows continued trend towards less and better targeted aid despite crisis-related spike (Jan. 12, 2010), available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1635&format=HTML&aged=0&language=EN&guiLanguage=EN>.

72. Recapitalization Communication (OJ 2009 C-10/2) (Jan. 2009).

on the basis of two main objectives: (1) to avoid the distortion of competition between institutions in different Member States and (2) to differentiate between sound and unsound institutions. Again in line with the 2004 Guidelines, the Communication required conditions that a minimum of 30 percent of the aid would come from private investors and would be granted as close as possible to normal market conditions. Following this instrument, fourteen recapitalization measures amounting to € 338.2 billion were granted, plus € 164.9 billion ad hoc in nineteen different Member States.⁷³

Yet, additional risks associated with unsound institutions motivated a third Communication on impaired assets,⁷⁴ specifically addressed to problems raised by these institutions such as moral hazard and the eventual need of a recurrent state intervention. Following the general principles set up by the previous instruments, *i.e.*, necessity, proportionality and minimization of distortions, the conditions laid down by this Communication acted as a means to encourage unsound institutions to exit the market by calling for a full disclosure of their assets, together with a pragmatic approach concerning the timeframe—a maximum of six months—as well as assets that can be relieved. Seven Member States used this instrument to grant aid for an amount of € 376 billion.⁷⁵

Finally, the last step towards recovery was taken with the Restructuring Communication⁷⁶ setting up the basis to assure long-term stability in the financial sector on the basis of three guiding principles.⁷⁷ First, restructuring should lead to restoration of long-term viability without state aids; second, restructuring should involve real contribution to the plan from the beneficiaries themselves; and third, the restructuring aid has to be accompanied by sufficient compensatory elements to prevent a distortion of competition. Member States had different obligations depending on the amount of aid granted to an institution. While in the case of sound institutions the so-called *Viability Plans* will suffice, whenever more than 2 percent of the total risks weighted assets *Restructuring Plans* will be implemented. With a medium-long-term timeframe between two and five years, such instruments imply not only a diagnosis of the financial institution including stress tests of their business but also the eventual sale of the institution in question.⁷⁸ As a central element to assure the actual recovery of the European financial sector, this Communication's fundamental objectives are maintaining the credit flows, leveling the playing field between

73. Press Release, *supra* note 71.

74. Impaired Assets Communication (OJ 2009 C-72/1).

75. Press Release, *supra* note 71.

76. Restructuring Communication (OJ 2009 C-195/9).

77. Joaquin Almunia, Vice President, European Comm'n Responsible for Competition Policy, State Aid Rules Can Help Europe Exit Crisis (June 10, 2010) (transcript available in the European Commission Press Release Database).

78. Both viability and restructuring plans will be closely monitored by the Commission Communication.

banks in different Member States as well as between beneficiaries and non-beneficiaries of public aids, avoiding subsidy races and thus retaining both competitiveness and efficiency of EU financial institutions.

B. *U.S. Responses*

1. Coordination

In the United States, the financial crisis was characterized by one key default (Lehman) and a wave of mergers between banks and other financial institutions, which individually and collectively raised competition issues. The three most significant mergers were those between Bank of America and Merrill Lynch, J.P. Morgan Chase and Bear Stearns, and Wells Fargo and Wachovia. The financial institution merger story has to be viewed against the backdrop of contemporaneous bank failures. Between October 2000 and January of 2008, the FDIC recorded twenty-seven bank failures.⁷⁹ It recorded almost as many—twenty-five—in the year 2008 alone and then a startling 139 in 2009.⁸⁰ According to one study, between 2007 and 2010, 318 U.S. commercial banks and savings institutions, about four percent of all banks operating at the end of 2006, exited the market.⁸¹

A host of federal decision makers were involved in responding to the crisis. On the regulatory side, review of bank mergers and acquisitions was fragmented between four different agencies—the Federal Reserve Board, Federal Deposit Insurance Corporation, Office of Thrift Supervision, and Office of the Controller of the Currency—depending on the incorporation status of the relevant bank.⁸² Bank mergers are generally exempt from premerger notification under the Hart-Scott-Rodino Act.⁸³ The Antitrust Division plays an advisory role in exempt bank merger transactions, analyzing the transaction under the Bank Merger Guidelines and submitting a report to the reviewing regulatory agency.⁸⁴

Apart from regulatory review, the other significant federal intervention during the 2008–09 financial crisis was the Treasury Department’s selective infusion of capital into the financial sector. On October 14, 2008, the U.S. government announced a series of initiatives to strengthen mar-

79. See *Failed Bank List*, FEDERAL DEPOSIT INSURANCE CORPORATION, <http://www.fdic.gov/bank/individual/failed/banklist.html> (last updated Oct. 28, 2011).

80. See *id.*

81. David C. Wheelock, *Have Acquisitions of Failed Banks Increased the Concentration of the U.S. Banking Market?*, 93 FED. RES. BANK ST. LOUIS REV. 155, 155 (2011).

82. Jonathan A. Rich & Thomas G. Scriven, *Bank Consolidation Caused by the Financial Crisis: How Should the Antitrust Division Review “Shotgun Marriages?”*, ANTITRUST SOURCE (Dec. 2008), available at http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Dec08_Rich12_22f.authcheckdam.pdf.

83. 15 U.S.C. §§ 18a(c)(7)–(8) (2000).

84. Rich & Scriven, *supra* note 82, at 2.

ket stability and liquidity and shore up financial institutions.⁸⁵ The program's centerpiece, the \$700 billion Troubled Asset Relief Program ("TARP") enabled the Treasury Department to provide loans to troubled financial institutions to prevent failure.

Decisions on allocation of TARP funds were largely at the discretion of the Treasury. No formal administrative or regulatory check was put in place to determine the competitive impact of TARP interventions. In some instances, banks used TARP funds to acquire other banks, thereby helping the cause of solvency but potentially exacerbating the problem of concentration.⁸⁶ Further, once the U.S. government became financially invested in the TARP-assisted banks, it assumed a fiscal interest in ensuring their survival. As smaller banks have struggled to repay TARP loans, the Treasury has encouraged acquisitions by larger banks on the condition that the acquiring bank repay the Treasury.⁸⁷

Given the fractured nature of decision-making on financial sector intervention and the potentially conflicting goals of ensuring short-term solvency, protecting federal fiscal exposure, and maintaining a competitive landscape, the U.S. response presented a risk of poorly coordinating macro and micro policy interests. Nonetheless, there is little evidence that substantial damage was done to the competitive landscape in the recent crisis. Despite the simultaneous exit of many smaller banks and the consolidation through merger of larger ones, relatively modest concentration increases were reported in most local banking markets around the time of the Financial Crisis.⁸⁸

2. Systematic Approach

An early headline of the financial crisis was the U.S. government's decision not to shore up Lehman Brothers, resulting in the dramatic implosion of a marquee investment bank with \$650 billion in assets. After cutting Lehman loose, the Treasury used TARP funds to shore up other large investment banks—Merrill Lynch, Bear Stearns, Citibank, and Goldman Sachs. The result was a substantially altered investment banking market.

More generally, the dispersion of TARP funds was largely left to the discretion of the Treasury Department on a case-by-case basis. The government used its discretion selectively to try to avoid cascading economic

85. *Troubled Asset Relief Program (TARP) Information*, BD. OF GOVERNORS OF THE FED. RESERVE SYS., <https://www.federalreserve.gov/supervisionreg/tarpinfo.htm> (last updated Mar. 7, 2017).

86. See, e.g., Jennifer Youfsi, *PNC Becomes First Bank to Utilize TARP Funds with Acquisition of National City*, MONEY MORNING (Oct. 24, 2008), <http://moneymorning.com/2008/10/24/troubled-assets-relief-program>.

87. Andy Peters, *Tarp Discounts Still Playing a Role in Bank Acquisitions*, ON WALL STREET (June 29, 2011), <http://www.onwallstreet.com/news/banks-consolidation-troubled-asset-relief-program-2674013-1.html>.

88. See Wheelock, *supra* note 81.

effects even while minimizing moral hazard. Lehman was let go to teach the market a lesson. In the automobile sector, top administration officials pondered the economic and political fallout of letting Chrysler go as well.⁸⁹

In general, the federal decisional matrix on bailouts played out as a balancing of concerns over fiscal restraint, moral hazard, and prevention of systemic collapses. Relatively little attention seems to have been paid to the competitive effects of selective industrial failure coupled with the strengthening, through equity infusion and/or merger, of the surviving firms. To the extent that such considerations were taken into account, it was on an ad hoc basis, without the check of any formal administrative or institutional process.

3. Time Consistency

A crisis is no place for sedulous contemplation, particularly when solvency and firm survival can lurch dramatically in days or even hours. The federal agencies responsible for scrutinizing financial sector mergers acquitted themselves nobly by responding at breakneck speed. All three of the mega-mergers were given early termination under the Hart-Scott-Rodino Act.⁹⁰ In the case of Wells Fargo/Wachovia, the early termination came two days after the Hart Scott filing.⁹¹

Recognizing the need for alacrity in crisis-period merger review, commentators have noted the availability of certain procedures designed to allow the immediate consummation of mergers, subject to later review and correction for competitive concerns if necessary. In particular, the Justice Department has previously used “pocket decrees” which allow a merger to close immediately subject to a consent decree permitting the government to order divestitures at a later date if its investigation uncovers competitive concerns.⁹²

In the 2008–09 Global Financial Crisis, the Justice Department did not make use of pocket decrees or other conditional clearance mechanisms. Its transactions clearance decisions were final. Perhaps this reflects a concern that placing any conditions on mergers might fatally spook already spooked acquiring firms and thereby undermine pressing short-term solvency and systemic failure worries. On the other hand, one wonders how high a discount rate on future competitive effects agencies should apply

89. See STEVEN RATTNER, *OVERHAUL: AN INSIDER’S ACCOUNT OF THE OBAMA ADMINISTRATION’S EMERGENCY RESCUE OF THE AUTO INDUSTRY* (2010).

90. *Notice 20081827: Bank of America Corporation; Merrill Lynch & Co., Inc.*, FTC EARLY TERMINATION NOTICES (Oct. 14, 2008), <https://www.ftc.gov/enforcement/premerger-notification-program/early-termination-notices/20081827>.

91. *Notice 20090021: Wells Fargo & Company; Wachovia Corporation*, FTC, (Oct. 9, 2008), <https://www.ftc.gov/enforcement/premerger-notification-program/early-termination-notices/20090021>.

92. Rich & Scriven, *supra* note 82, at 7.

during a crisis. In the 2008–09 financial crisis, the United States seemed to apply a steep discount rate.

CONCLUSION

During times of severe economic crisis, governmental interventions have simultaneous and direct effects on both macro and micro industrial factors. As governments shore up some financial institutions through capital infusion and allow others to vanish into liquidation or else be acquired by their stronger rivals, they influence the present and future courses of the financial and real economies both systemically and locally. These decisions do not call for a simple trade-off between short-term and long-term effects, between short-term stability and liquidity on the one hand and long-run competitiveness on the other. Rather, they entail managing a variety of competing pressures and policy levers.

In this article, we have identified three particularly important dimensions of governmental response during financial crises. First, governments have to coordinate the interventions of many different political and regulatory actors to ensure consistency between macro and micro objectives. Second, they must take a systematic approach, or at least recognize that an ad hoc approach designed to minimize future moral hazard can have serious repercussions for competitive balance. Third, they need to ensure time consistency—that is, to not so steeply discount future competitive implications that dynamic and static costs of future enhancements of market power swamp present stability and liquidity concerns.

A survey of the EU and U.S. responses to the recent financial crisis reveals the challenges involved in managing the strategic complementarity between macro and micro policy levers along the three key dimensions. Perhaps surprisingly given Europe's weaker federal structure, the European Union seemed to have a more streamlined institutional apparatus at its disposal to coordinate actions by governmental decision-makers. Through its state aid rules, the European Union also seemed to have a stronger institutionalized check on selective and potentially anticompetitive capital infusion. By comparison, the U.S. approach appears relatively ad hoc. Finally, at least at a superficial level, the European Union also seemed to employ a more deliberate approach to balancing short-term and long-term objectives.

None of this is to say that European governments more successfully deployed their policy levers than did their U.S. counterparts. The relatively uncoordinated and selectively applied U.S. approach seems to have produced little long-run damage in the form of enhanced market concentration and reduced competitiveness. Still, it would be desirable for policymakers on both sides of the Atlantic to give serious thought to how, in the next, inevitable crisis, they will deploy their strategic-complementary policy levers to maximize the speed and effectiveness of governmental response even while preserving competitive landscapes.

